

ABSTRACT

Certain embodiments of the present invention relate to a method for manufacturing a semiconductor device in which, when a cell capacitor of a DRAM and a capacitor element in an analog element region are mix-mounted on the same chip, the manufacturing steps can be simplified. First, the P type impurity region 13b and the P type well 13 are simultaneously formed. Next, the lower electrodes 55a and 55b of the capacitor elements 600a and 600b and the storage nodes 53a and 53b of the cell capacitors 700a and 700b are simultaneously formed. Next, a dielectric layer (ON layer 61) of the capacitor elements 600a and 600b and a dielectric layer (ON layer 61) of the cell capacitors 700a and 700b are simultaneously formed. Then, the upper electrodes 69a and 69b of the capacitor elements 600a and 600b and the cell plate 67 of the cell capacitors 700a and 700b are simultaneously formed.

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